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INDICATIONS AND COMPLICATIONS OF LOWER LIMB AMPUTATIONS

Abstract: Objective: This study was carried out to determine indications of lower limb amputations and its out-come and complications.

Study design and Duration: It is a prospective type of study.

Setting: This study was conducted

Patients and Methods: Total 90 cases were studied. These cases were reported in emergency department and out-patient doors. Some of them underwent amputations on emergency basis due to septicemia and deep infections causing threat to life. Mostly cases underwent amputation on elective basis. These cases were admitted in the ward. Post operative cases were retained in the ward for 7-10 days duration. During this period patients were monitored for wound infections. Proper antibiotics were given to prevent any infection. All necessary investigations were carried out and they were evaluated for anesthesia fitness. On emergency basis operation was done in emergency department and elective amputations were done in main operation theater. A written consent was taken from all patients and also from the medical superintendent of the hospital for conducting this study. A proforma was designed for documenting presenting complaints, cause of amputation, total hospital stay, Outcome and complications after operation. After discharge from the ward these cases were called for follow-up and stump was examined for necrosis, infection or hematoma etc. All data was analyzed using Microsoft office and SPSS version 2007. Results were calculated in the form of frequencies and expressed via tables and graphs.

Results: Out of 90 cases 33(36.7%) cases underwent amputation of lower limbs on emergency basis and 57(63.3%) cases were operated on elective basis. Ages of these cases was ranging from 30-75 years with mean age of 46.4 years. Mostly cases were above 45 years of age. There were 15(16.1%) cases with age range of 30-40 years, 14(15.6%) with 41-50 years, 33(36%) between 51-60 years, 10(11%) cases between 61-70 years and 18(20%) cases with age above 70 years. There were both male and female populations in this study group. There were 70(77.8%) males and 20(22.2%) female patients. It was seen that in most of the cases right limb was involved more than left limb. In 68% cases right lower limb and in 32% cases left lower limb amputation was done. There were different causes of amputation such as in 35(38.8%) cases diabetes was cause, in 22(24.4%) cases trauma, in 24(26.7%) cases acute vascular insufficiency and in 9(10%) cases infection was cause of lower limb amputation. Leading cause was diabetic foot. Most common complication seen after operation was wound infection seen in 23 cases, wound hematoma in 6 cases and stump necrosis in 3 cases was found. Out of 90 postoperative cases 60 were discharged, 18 were referred, 8 cases left against medical advice and 4 cases died due to septicemia and multi organ failure.

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Conclusion: Diabetic foot is most common reason of lower limb amputations. Road side accidents are very common in big cities of Pakistan due to over crowded areas and too much traffic leading to trauma and amputations of limbs. There is lack of awareness about traffic rules that is major reason of accidents.

Key words: Lower limb amputation, diabetic foot, Indications of amputation

Language: English

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INTRODUCTION

Amputation of lower limbs has been practicing since the old times. It is done to limit the disease progress and to save life of the patient. There are many indications of this procedure. In diabetic patients diabetic foot is most common indication for lower limb amputation which may be below knee or above knee depending upon the progress of disease. Stump is closed with primary closure if not infected. Infected stump is closed by delayed primary repair when infection is settled down. In gas gangrene of lower limbs infection spreads rapidly and it is highly septic with high mortality rate and amputation is done to remove source of infection and to save life of the patient. Other indication is acute vascular event which leads to ischemia of lower limb. Arterial embolism leading to acute ischemia is much common in patients with heart disease or dyslipidemia. Total 90 cases were studied. These cases were reported in emergency department and out-patient doors. Some of them underwent amputations on emergency basis due to septicemia and deep infections causing threat to life. Mostly cases underwent amputation on elective basis. These cases were admitted in the ward. All necessary investigations were carried out and they were evaluated for anesthesia fitness. On emergency basis operation was done in emergency department and elective amputations were done in main operation theater. A written consent was taken from all patients and also from the medical superintendent of the hospital for conducting this study. A proforma was designed for documenting presenting complaints, cause of amputation, total hospital stay, Outcome and complications after operation. In severe trauma of lower limb where arterial injury leads to ischemia and loss of limb amputation is indicated. In road side accident it is much common when associated with fracture of femur or tibia where injury to femoral artery is much common.

Patients and Methods

This is a prospective study conducted in a tertiary care hospital. Study was completed in a duration of seven months. Total 75 cases were studied. These cases were reported in emergency department and out-patient doors. Some of them underwent amputations on emergency basis due to septicemia and deep infections causing threat to life. Mostly cases underwent amputation on elective

basis. These cases were admitted in the ward. In diabetic patients diabetic foot is most common indication for lower limb amputation which may be below knee or above knee depending upon the progress of disease. Stump is closed with primary closure if not infected. Infected stump is closed by delayed primary repair when infection is settled down. In gas gangrene of lower limbs infection spreads rapidly and it is highly septic with high mortality rate and amputation is done to remove source of infection and to save life of the patient. Patients with various age were included in this study. Mostly old age people were involved. After discharge from the ward these cases were called for follow-up and stump was examined for necrosis, infection or hematoma etc. All data was analyzed using Microsoft office and SPSS version 2007. Results were calculated in the form of frequencies and expressed via tables and graphs. Other indication is acute vascular event which leads to ischemia of lower limb. Arterial embolism leading to acute ischemia is much common in patients with heart disease or dyslipidemia. Total 90 cases were studied. These cases were reported in emergency department and out-patient doors. Some of them underwent amputations on emergency basis due to septicemia and deep infections causing threat to life. Mostly cases underwent amputation on elective basis. These cases were admitted in the ward. All necessary investigations were carried out and they were evaluated for anesthesia fitness.

Results

Results: Out of 90 cases 33(36.7%) cases underwent amputation of lower limbs on emergency basis and 57(63.3%) cases were operated on elective basis. Ages of these cases was ranging from 30-75 years with mean age of 46.4 years. Mostly cases were above 45 years of age. There were 15(16.1%) cases with age range of 30-40 years, 14(15.6%) with 41-50 years, 33(36%) between 51-60 years, 10(11%) cases between 61-70 years and 18(20%) cases with age above 70 years. There were both male and female populations in this study group. There were 70(77.8%) males and 20(22.2%) female patients. It was seen that in most of the cases right limb was involved more than left limb. In 68% cases right lower limb and in 32% cases left lower limb amputation was done. There were different causes of amputation such as in 35(38.8%) cases diabetes was

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cause, in 22(24.4%) cases trauma, in 24(26.7%) cases acute vascular insufficiency and in 9(10%) cases infection was cause of lower limb amputation. Leading cause was diabetic foot. Most common complication seen after operation was wound infection seen in 23 cases, wound hematoma in 6 cases and stump necrosis in 3 cases was found. Out of 90 postoperative cases 60 were discharged, 18 were referred, 8 cases left against medical advice and 4 cases died due to septicemia and multi organ failure. Post operative cases were retained in the

ward for 7-10 days duration. During this period patients were monitored for wound infections. Proper antibiotics were given to prevent any infection. All necessary investigations were carried out and they were evaluated for anesthesia fitness. On emergency basis operation was done in emergency department and elective amputations were done in main operation theater. A written consent was taken from all patients and also from the medical superintendent of the hospital for conducting this study.

Table-1. Age distribution of patients among study group.

Age of Patients (years)	Number of Patients (n)	Frequency (%)
30-40	15	16.7
41-50	14	15.6
51-60	33	36.7
61-70	10	11
Above 70	18	20

Indications of Amputation	Number of patients (n)	(%)
Diabetic foot	35	38.8
Trauma	22	24.4%
Peripheral vascular disease	24	26.7
Infection	9	10

DISCUSSION

Diabetes is a very common disease which leads to immuno-suppression and minor infection can become complicated and life threatening. Out of 90 cases 33(36.7%) cases underwent amputation of lower limbs on emergency basis and 57(63.3%) cases were operated on elective basis. Ages of these cases was ranging from 30-75 years with mean age of 46.4 years. Mostly cases were above 45 years of age. There were 15(16.1%) cases with age range of 30-40 years, 14(15.6%) with 41-50 years, 33(36%) between 51-60 years, 10(11%) cases between 61-70 years and 18(20%) cases with age above 70 years. There were both male and female populations in this study group. There were 70(77.8%) males and 20(22.2%) female patients. It was seen that in most of the cases right limb was involved more than left limb. In 68%

cases right lower limb and in 32% cases left lower limb amputation was done. There were different causes of amputation such as in 35(38.8%) cases diabetes was cause, in 22(24.4%) cases trauma, in 24(26.7%) cases acute vascular insufficiency and in 9(10%) cases infection was cause of lower limb amputation. Leading cause was diabetic foot. Most common complication seen after operation was wound infection seen in 23 cases, wound hematoma in 6 cases and stump necrosis in 3 cases was found. In such patients Diabetic foot is most common complication. When this infection involves deep tissue and bone causing osteomyelitis then amputation is indicated. Lower limb amputation due to diabetic foot is commonly performed when treatment failure occurs. In this way we can limit the disease by removing source of infection. Stump is closed either

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with primary intention in clean wounds or with delayed primary repair when wound is infected. Male patients more commonly undergo lower limb amputation than females. Old age is more common for acquiring diabetic foot or peripheral vascular disease so leading to amputation. Such patients suffer from life-long disability. In such cases rehabilitative measures can be taken for reducing disability. Amputation of lower limbs has been practicing since the old times. It is done to limit the disease progress and to save life of the patient. There are many indications of this procedure. In diabetic patients diabetic foot is most common indication for lower limb amputation which may be below knee or above knee depending upon the progress of disease. Stump is closed with primary closure if not infected. Infected stump is closed by delayed primary repair when infection is settled down. In gas gangrene of lower limbs infection spreads rapidly and it is highly septic with high mortality rate and amputation is

done to remove source of infection and to save life of the patient. Other indication is acute vascular event which leads to ischemia of lower limb. Arterial embolism leading to acute ischemia is much common in patients with heart disease or dyslipidemia. This is a prospective study conducted in a tertiary care hospital. Study was completed in a duration of seven months.

Conclusion

Diabetic foot and peripheral vascular disease are most common cause of lower limb amputations. Lower limb amputation is most commonly performed amputation. Main cause of amputation is diabetic foot leading to osteomyelitis. Post operative complications can be prevented by injectable antibiotics giving gram positive and gram negative coverage. Lower limbs get more = severe injuries during accidents than upper limbs so leading to increased frequency of amputations.

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